SCIENCE.CONNECT 1

Author/Consultant Team

Helen Colbourne
Science 14 Teacher
Calgary, Alberta

Eulalia Fernandez
Science 14 Teacher
Calgary, Alberta

Glen Hutton
Educational Consultant
Vulcan, Alberta

Scott Jantzen
Science 14 Teacher
High River, Alberta

Deborah MacFadyen
Science 14 Teacher
Calgary, Alberta

Cliff Sosnowski
Science 14 Teacher
Edmonton, Alberta

Monika Stoten
Science 14 Teacher
Edmonton, Alberta

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The science.connect 1 Development Team

SCIENCE PUBLISHER: Melanie Myers

PROJECT MANAGER: Helen Mason

DEVELOPMENTAL EDITORS: Margaret Crammond, John Mason, Adrienne Montgomerie, Rosemary Tanner, Rita Vanden Heuvel

SUPERVISING EDITORS: Kay Badcock, Joanne Murray

EDITORIAL ASSISTANTS: Joanne Murray, Valerie Janicki

COPY EDITOR: Linda Jenkins

PERMISSIONS EDITORS: Maria DeCambra, Linda Tanaka

PRODUCTION CO-ORDINATOR: Paula Brown

PRODUCTION SUPERVISOR: Yolanda Pigden

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Acknowledgements

Teacher Reviewers

Erin Campbell,
Highwood High School,
High River, Alberta

Daryl M.J. Chichak,
Science Consultant,
Edmonton Catholic Schools, Alberta

Graham Ferrige,
Highwood High School,
High River, Alberta

David Gowans,
Father Lacombe Senior High School,
Calgary, Alberta

Ed Leong,
Henry Wise Wood Senior,
Calgary, Alberta

Greg Hall,
École Secondaire Notre Dame
High School,
Red Deer, Alberta

Joy Harrison,
Frank Maddock High School,
Drayton Valley, Alberta

Glen Hutton,
Educational Consultant,
Vulcan, Alberta

Anna-Marie Loomis,
David Thompson High School,
Condor, Alberta

Troy MacDougall,
Father Lacombe Senior High School,
Calgary, Alberta

Margaret McCarthy,
Retired Science 14 Teacher,
Calgary, Alberta

Orest Olesky,
New Sarepta Community High School,
New Sarepta, Alberta

Oliver O'Reilly,
Medicine Hat High School,
Medicine Hat, Alberta

David Petriew,
Fort Vermilion Public School,
Fort Vermilion, Alberta

Hélène Rocheleau,
Bishop McNally High School,
Calgary, Alberta

Brenda Scaddan,
Queen Elizabeth Senior
High, Edmonton

Rosemary Sinclair,
Bishop Grandin High School,
Calgary, Alberta

Wade Strass,
Spruce Grove Composite,
Spruce Grove, Alberta

Greg Voigt,
Archbishop O'Leary Catholic
High School,
Edmonton, Alberta

Safety Reviewer

Margaret Redway
Fraser Scientific & Business Services
Delta, British Columbia

Aboriginal Reviewer

Priscilla Settee
University of Saskatchewan
Indigenous Peoples Program
Saskatoon, Saskatchewan

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Greg Ani,
Fort Saskatchewan
Senior High,
Sherwood Park, Alberta

Terri Blacker,
Parkland Composite
High School,
Edson, Alberta

Andy Charlebois,
Lethbridge Collegiate
Institute,
Lethbridge, Alberta

Roger Cowan,
Brooks Composite
High School,
Brooks, Alberta

Leanne Dyck,
Grande Prairie
Composite High
School,
Grande Prairie, Alberta

Janet Fedorvich,
Alexis Elementary
Junior Senior
High School,
Glenevis, Alberta

Leowne Ferguson,
Lester B. Pearson
Senior High School,
Calgary, Alberta

Gary Hanna,
Memorial Composite
High School,
Stony Plain, Alberta

Jennifer Hopkins,
Louise Dean Centre,
Calgary, Alberta

Kim Hula-Hetu,
W.P. Wagner School,
Edmonton, Alberta

Dani Hunter,
Highwood School,
High River, Alberta

Graham Jackson,
Bellerose Composite,
St. Albert, Alberta

John Jackson,
Jack James High School,
Calgary, Alberta

Shalini Kapoor,
Grand Centre
High School,
Cold Lake, Alberta

Tom Keller,
Drumheller Composite
High School,
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Mickey Lanigan,
Central Peace
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Spirit River, Alberta

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Calgary, Alberta

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Fort McMurray
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Fort McMurray, Alberta

Terry Maslyk,
Morinville Community
High School,
Morinville, Alberta

Duane Moore,
Archbishop O'Leary,
Edmonton, Alberta

David Paraschuk,
Bishop O'Byrne
High School,
Calgary, Alberta

David Petriew,
Fort Vermilion
Public School,
Fort Vermilion, Alberta

Lorrie Stayura,
William E. Hay
Composite High
School,
Stettler, Alberta

Sister Dianne Turner,
St. Francis High School,
Calgary, Alberta

Ken VanLoon,
Lindsay Thurber
Comprehensive
High School,
Red Deer, Alberta

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To the Student

Welcome to *science.connect 1*, a science textbook developed specifically for Science 14 students. Alberta Learning and McGraw-Hill Ryerson Limited developed this student text with the assistance of Alberta Science 14 teachers and many Science 14 students who field-tested the original version and made useful suggestions that helped us improve the activities and text to make them more useful for and interesting for you.

The *science.connect 1* text is divided into four units:

- Unit A: Investigating Properties of Matter (Basic Chemistry)
- Unit B: Energy Transfer Technologies (Basic Physics)
- Unit C: From Life to Lifestyle (Basic Biology)
- Unit D: Matter and Energy in the Biosphere (Environmental Studies)

Each unit begins with an opener that introduces you to the topics that you will be studying and explains how these topics connect to your life and the world you live in. Pay particular attention to the photos at the beginning of the unit. Each one includes important information that you will discover as you work through the chapters of the unit.

Each chapter opener briefly explains what you will be doing during the chapter. This includes a list of the science concepts you will learn, why they are important, and what skills you will use. A Starting Point activity introduces you to one of the topics in the chapter using a hands-on and interesting activity.

The chapters are then divided between text, graphics and photos, and activities. The text explains important science concepts that will help explain what you observe during the activities. The visuals reinforce what is said in the text. Be sure to read the captions with all graphics and photos, as they contain important information that you need to know to answer some of the questions. There are several kinds of activities — some require laboratory equipment, and you will do others using the computer. The ones labelled Try This! can even be done at home.

Each unit ends with a project that involves working with a partner or in a group to do some further investigation into what you learned during the unit.

Use of Multimedia

Most texts have written information, activities, and visuals. The unique thing about *science.connect 1* is its use of multimedia to help teach or reinforce important concepts. Look for the following logos to help you identify the use of multimedia:

Disc Connects refer you to the student CD-ROM. This CD has a number of applets that will help you learn about such things as Workplace Hazardous Materials Information System (WHMIS), The Periodic Table, and Photosynthesis and Cellular Respiration.

The applets on the CD-ROM use interactive methods that many students have found useful for learning about abstract ideas.

Internet Connects refer you to the Internet, where you will be guided to a site that will assist you in learning about the topic being discussed. All of the sites have been checked to make sure they contain the needed material. An ICT Master that accompanies the Internet Connect will assist you in identifying the important information. You can download this ICT Master at the *science.connect 1* book site, which is part of the McGraw-Hill Ryerson web site.

Aids to Using the Text

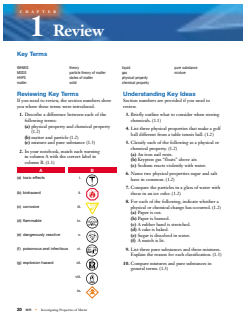
The following information will help you use this text:

- Words in **boldface** are Key Terms. These are important words that will help you discuss the material being studied. Write down and learn the meaning of these key words as you come to them. A Glossary at the back of the book lists and defines all key words. There is also a page reference that tells where that particular word was introduced in *science.connect 1*.

- Questions in **Reading Check** boxes help you check that you understand what is being discussed in the accompanying text.

Check Your Understanding

- **Check Your Understanding** questions at the end of each text section assist you in checking how well you understood the section.



- Each chapter ends with a **Chapter Review**. The chapter review lists the Key Terms that have been introduced during that chapter. It also provides questions to answer to check that you understand the science concepts and can use the skills handled in the chapter.

- A **Pause & Reflect** box at the end of each chapter assists you in reflecting on what you have learned during that chapter.

Other parts of the text include:

Did You Know? boxes present interesting facts related to science, technology, nature, and the universe.

Try This! boxes provide short, interesting activities. Many of these are things you can do at home.

Off the Wall boxes provide scientific information that is unusual or gross.

Science Myth boxes provide the correct information about scientific theories that many people misunderstand.

Special Icons

The following two icons are used in many activities.

The co-operative group work icon suggests that the activity is best done in a group. The pencil icon reminds you to record your observations, predictions, or other information.

The following logos are used in the Safety Precautions and indicate special care that needs to be taken during specific activities and investigations.

Logo	Safety Precaution
	Wear a protective apron during this activity.
	Wear protective glasses during this activity.
	Be cautious of sharp objects.
	Possibly dangerous chemicals are used during this activity. Follow directions with care.
	Materials from this activity need to be disposed of with care. Follow your teacher's direction for disposal.
	Electricity is used during this activity. Follow directions carefully.
	An open flame is used in this activity. Before starting, check the location of fire extinguishers and review safety procedures. Follow instructions with care.
	This activity will create dangerous fumes. Use a fume hood.
	This activity uses poisonous substances. Handle the materials as directed. Wash your hands, all surfaces, and all apparatus with care at the end of the investigation.
	Wear protective gloves during this activity.
	This activity deals with hot materials or apparatus. Wear mitts to protect your hands from heat.

We hope that you will use all of these features, plus the many activities and investigations, to help you enjoy Science 14.